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Application Number

07/891,177

Filed

5/29/92

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48

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United States Patent Application Publication No. 6,271,037, page _____, line _____.

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US00627103

(12) **United States Patent**
Chait et al.

(10) Patent No.: **US 6,271,037 B1**
(45) Date of Patent: **Aug. 7, 2001**

(54) **METHOD AND PRODUCT FOR THE SEQUENCE DETERMINATION OF PEPTIDES USING A MASS SPECTROMETER**

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(73) Assignees: The Rockefeller University, NY (US); The Scripps Research Institute, La Jolla

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/341,555**

(22) PCT Filed: **May 27, 1993**

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PCT Pub. Date: **Dec. 9, 1993**

Related U.S. Application Data

(63) Continuation-in-part of application No. 07/891,177, filed on May 29, 1992, now abandoned.

(51) Int. Cl.⁷ **G01N 33/00**

(52) U.S. Cl. **436/89; 436/173; 436/174;
436/178; 250/281; 250/282**

(58) Field of Search **436/89, 173, 174,
436/178; 250/281, 282**

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ABSTRACT

Method is described for sequencing polypeptides by forming peptide ladders comprising a series of polypeptides in which adjacent members of the series vary by one amino acid residue and determining the identity and position of each amino acid in the polypeptide by mass spectroscopy.

45 Claims, 16 Drawing Sheets

1-2-3-4-5-6-7-8-9.....n-(OH)

INTACT STARTING

PEPTIDE CHAIN

(X)-1-2-3-4-5-6-7-8-9.....n-(OH)

(X)-2-3-4-5-6-7-8-9.....n-(OH)

(X)-3-4-5-6-7-8-9.....n-(OH)

(X)-4-5-6-7-8-9.....n-(OH)

(X)-5-6-7-8-9.....n-(OH)

etc.